CLAIMS

1. A heat activated power source comprising:

an electrically conductive shell extended along a longitudinal axis;

an anode element;

a heat activated electrolyte element;

a cathode element;

wherein said anode element, said electrolyte element, and said cathode element are stacked in said order along said longitudinal axis in said shell, and as a whole form an unitary body;

wherein said heat activated electrolyte element is switchable from an ion-isolative ground state to an ion-conductive active state by means of a heat energy pulse exceeding a threshold energy level;

wherein a first element of said anode element and said cathode element is an electrode element that is electrically insulated from said shell; and

wherein a second element of said anode element and said cathode element is electrically interconnected with said shell and comprises a heat energy amplifying material that is operative to ignite in response to a heat energy signal lower than said threshold energy level and, when ignited, to provide said electrolyte element with a heat energy pulse exceeding said threshold energy level;

such that said electrode element and said shell form two terminals between which a voltage is supplied when a heat energy signal lower than said threshold energy level is received by said second element.

2. A heat activated power source according to claim 1, wherein the cathode element is said first element and wherein the anode element is said second element.

3. A heat activated power source according to claim 1, wherein the anode element is said first element and wherein the cathode element is said second element.

4. A heat activated power source according to any one of claims 1-3, wherein said heat activated electrolyte element comprises a compound that is chosen from the group consisting of $LiAlCl_4$, $LiBF_4$, LiCl, and LiBr.

5. A heat activated power source according to any one of claims 1-4, wherein said heat activated electrolyte element comprises a granulated compound or a compound in a crystalline or polycrystalline state.

6. A heat activated power source according to any one of claims 1-5, wherein said cathode element comprises a compound that is chosen from the group consisting of tungsten, molybdenum, tin, lead, platinum, palladium, silver, and gold.

7. A heat activated power source according to any one of claims 1-6, wherein said cathode element comprises a compound in the form of compressed powder.

8. A heat activated power source according to any one of claims 1-7, wherein said anode element comprises a compound that is chosen from the group consisting of: aluminum, zinc, magnesium, and iron.

9. A heat activated power source according to any one of claims 1-8, wherein said anode element comprises a compound in the form of compressed powder.

10. A heat activated power source according to any one of claims 1-8, wherein said anode element is constituted by a solid body.

11. A heat activated power source according to any one of claims 1-10, wherein said second element comprises an ionically active material other than the heat energy amplifying material.

12. A heat activated power source according to any one of claims 1-10, wherein said second element comprises one homogenous material only, which is heat energy amplifying and ionically active.

13. A heat activated power source according to any one of claims 1-12, further comprising an electrically insulating sleeve surrounding said first element and thus insulating it from the shell.

14. A heat activated power source according to any one of claims 1-13, wherein said second element is operative to ignite by a heat energy signal supplied from a shock tube.

15. A heat activated power source according to any one of claims 1-14, wherein said electrolyte element requires a temperature above 200°C in order to change state from said ion-isolative ground state to said ion-conductive active state.

16. A detonator comprising a heat activated power source according to any one of claims 1-15, an electronic delay circuitry, and a pyrotechnical detonator charge, wherein said electronic delay circuitry is operative to input electrical current from said power source and to output an electrical initiation signal initiating said pyrotechnical detonator charge.

17. A detonator according to claim 16, further comprising an initiator that is operative to initiate said

pyrotechnical detonator charge by means of said electrical initiation signal.

18. A detonator according to any one of claims 16-17, wherein said electronic delay circuitry comprises a capacitor operative to store electrical current from the power source during a delay time of said electronic delay circuitry.

19. A detonator according to any one of claims 16-18, further comprising a metallic capsule containing said electronic delay circuitry, said power source, and said detonating charge, and furthermore forming part of the power source shell, whereby the metallic capsule serves as an electrical connector element between the second element of said power source and said electronic delay circuitry.

20. A detonator system comprising a detonator according to any one of claims 16-19 and a shock tube, wherein said shock tube is interconnected with said power source and, is operative to ignite said second element in said heat activated power source.

21. A method of manufacturing a heat activated power source according to any one of claims 1-15, wherein each of the first element, the second element, and the electrolyte element is separately pressed into the shell.